

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

APTIV TECHNOLOGIES LIMITED,)	
)	
Plaintiff,)	
)	
v.)	C.A. No. 23-307 (JDW)
)	
MICROCHIP TECHNOLOGY, INC.,)	JURY TRIAL DEMANDED
)	
Defendant.)	
<hr/>		
MICROCHIP TECHNOLOGY, INC.,)	
)	
Counterclaim Plaintiff,)	
)	
v.)	
)	
APTIV TECHNOLOGIES LIMITED and)	
APTIV SERVICES US, LLC,)	
)	
Counterclaim Defendants.)	

**DEFENDANT’S ANSWER, AFFIRMATIVE DEFENSES, AND
COUNTERCLAIMS TO APTIV TECHNOLOGIES LIMITED’S
COMPLAINT FOR PATENT INFRINGEMENT**

Microchip Technology Inc. (“Microchip”) hereby submits its Answer, Affirmative Defenses, and Counterclaims to Plaintiff Aptiv Technologies Limited’s (“Aptiv Technologies”) Complaint for Patent Infringement.¹ Unless specifically admitted, Microchip denies each and every allegation made by Aptiv Technologies in the Complaint, and states as follows. For ease of reference, Microchip refers to Aptiv Technologies’ headings and titles, but to the extent those headings and titles could be construed to contain factual allegations, those allegations are denied.

¹ Aptiv Technologies names “Microchip Technology, Inc.” as the defendant in this matter. No such entity exists. Microchip assumes that Aptiv intended to refer to “Microchip Technology Inc.” Microchip has corrected the caption and responds to Aptiv’s complaint as if it had identified Microchip Technology Inc. as the defendant.

NATURE OF THE ACTION

1. Microchip admits that this is a civil action for patent infringement. Microchip admits that Aptiv Technologies alleges infringement of U.S. Patent Nos. 9,619,420 (the “’420 Patent”); 9,645,962 (the “’962 Patent”); 9,460,037 (the “’037 Patent”); 10,545,899 (the “’899 Patent”); and 11,176,072 (the “’072 Patent) (collectively the “Aptiv Patents”). Microchip further admits that Exhibits A–E purport to be copies of the Aptiv Patents. Microchip denies the remaining allegations of Paragraph 1 of the Complaint and denies that Microchip has infringed the Aptiv Patents.

THE PARTIES

2. Microchip lacks knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 2 of the Complaint and, on that basis, denies them.

3. Microchip lacks knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 3 of the Complaint and, on that basis, denies them.

4. Microchip lacks knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 4 of the Complaint and, on that basis, denies them.

5. Microchip admits that it is a Delaware corporation with a place of business located at 2355 West Chandler Blvd., Chandler, Arizona 85224-6199, and that it is a leading provider of integrated circuits. Microchip otherwise denies the allegations of Paragraph 5 of the Complaint.

JURISDICTION AND VENUE

6. The allegations of Paragraph 6 are legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip will not contest subject matter jurisdiction for purposes of this action only.

7. Microchip denies committing any acts of infringement. Microchip admits that it filed a patent infringement action against an entity that later changed its name to Aptiv Services

US, LLC (“Aptiv Services”) (*Microchip Technology Inc. v. Aptiv Services US, LLC*, Case No. 17-cv-01194-JDW (D. Del.) (the “2017 Action”)). For purposes of this case only, Microchip will not challenge personal jurisdiction or venue in the District of Delaware. The remaining allegations of Paragraph 7 are legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 7 of the Complaint.

APTIV TECHNOLOGIES’ PATENTED TECHNOLOGY

8. Microchip admits that the Complaint purports to relate to Apple CarPlay. Microchip admits that the website <https://www.apple.com/ios/carplay> states as of May 4, 2023 that CarPlay allows users to “get directions, make calls, send and receive messages, and enjoy your favorite music . . . [a]ll on your car’s built-in display.” Microchip lacks knowledge or information sufficient to form a belief as to the truth of the remaining allegations of Paragraph 8 of the Complaint and, on that basis, denies them.

9. Microchip admits that Apple publicly announced “iOS in the Car” at the Worldwide Developers Conference in 2013. Microchip admits that CarPlay related to a vehicle’s built-in infotainment system, that Apple’s Accessory Interface Specification related to certain CarPlay requirements, and that Apple had a certification process relating to CarPlay. Microchip lacks knowledge or information sufficient to form a belief as to the truth of the remaining allegations of Paragraph 9 of the Complaint and, on that basis, denies them.

10. Microchip admits that CarPlay may employ USB technology. Microchip further admits that USB existed before CarPlay. Microchip further admits that there are various USB standards and that USB may connect a mouse to a laptop. Microchip denies the remaining allegations of Paragraph 10 of the Complaint.

11. Microchip admits that a USB system may employ a hub, and that a hub may connect to devices such as a laptop, a flash drive, a mouse, or a printer. To the extent that Paragraph 11 of the Complaint contains additional allegations, Microchip denies any such allegations.

12. Microchip lacks knowledge or information sufficient to form a belief as to the truth of the allegations regarding a “typical” vehicle infotainment system prior to CarPlay and, on that basis, denies them.

13. Microchip lacks knowledge or information sufficient to form a belief as to the truth of the allegations regarding a “typical” vehicle infotainment system prior to CarPlay and, on that basis, denies them.

14. Microchip admits that CarPlay required an iPhone to operate in host mode to a certain extent, at certain times. Microchip lacks knowledge or information sufficient to form a belief as to how unspecified “auto manufacturers and their suppliers” responded to this alleged requirement or whether the head unit “typically” controlled devices and, on that basis, denies those allegations. Microchip denies the remaining allegations in Paragraph 14 of the Complaint.

15. Microchip admits that Unwired has purchased certain chips from Microchip. Microchip further admits that Unwired and Microchip had a business relationship. Microchip lacks knowledge or information sufficient to form a belief as to the truth of the remaining allegations of Paragraph 15 of the Complaint, including whether Aptiv Technologies or related entities acquired Unwired and, on that basis, denies them.

16. Microchip denies the allegations of Paragraph 16 of the Complaint.

17. Microchip denies the allegations of Paragraph 17 of the Complaint.

18. Microchip denies the allegations in the first sentence of Paragraph 18 of the Complaint. The remaining allegations of Paragraph 18 of the Complaint are legal conclusions

regarding the scope of the Aptiv Patents and do not require a response. To the extent that any response to such allegations is required, Microchip denies the remaining allegations of Paragraph 18 of the Complaint.

19. Microchip admits that Apple CarPlay is now available from multiple major auto manufacturers and in a number of vehicle models. Microchip lacks knowledge or information sufficient to form a belief as to the truth of the remaining allegations of Paragraph 19 of the Complaint and, on that basis, denies them.

20. Microchip admits that Exhibit I to the Complaint includes the language quoted in Paragraph 20 of the Complaint. Microchip lacks knowledge or information sufficient to form a belief as to the truth of the remaining allegations of Paragraph 20 of the Complaint and, on that basis, denies them.

MICROCHIP'S INFRINGING PRODUCTS

21. Microchip admits that certain of its personnel were aware, in or around 2014, that Unwired was developing a USB hub. Microchip further admits that it made FlexConnect available to its customers. Microchip denies the remaining allegations of Paragraph 21 of the Complaint.

22. Microchip denies the allegations of Paragraph 22 of the Complaint.

23. Microchip denies the allegations of Paragraph 23 of the Complaint.

24. Microchip denies the allegations of Paragraph 24 of the Complaint.

25. Microchip admits that, on its face, the '037 Patent states that it issued from Application No. 14/487,947 (the "'947 Application"), which published as Pub. No. 2015/0089092. Microchip admits that, based on the information stated on the faces of the Aptiv Patents, the '947 Application purports to have been the first to publish of the applications that led to the Aptiv Patents. Microchip admits that, based on the information stated on the faces of the Aptiv Patents, each of the other four Aptiv Patents purport to have issued from applications that were

continuations (or continuations-in-part) of the '947 Application. The remaining allegations of Paragraph 25 of the Complaint are legal conclusions regarding the scope of the Aptiv Patents and do not require a response. To the extent that any response to such allegations is required, Microchip denies the remaining allegations of Paragraph 25 of the Complaint.

26. Microchip admits that it internally referred to certain products using the project name "Sandia." Microchip denies the remaining allegations of Paragraph 26 of the Complaint.

27. Microchip admits that certain Microchip employees became aware of the Aptiv Patents as part of the 2017 Action, that Microchip accused Aptiv's Dual Role Hub of infringing certain of Microchip's patents in the 2017 Action, and that the Aptiv Patents were exhibits at trial in the 2017 Action. The remaining allegations of Paragraph 27 are legal conclusions and do not require a response. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 27 of the Complaint.

28. Microchip admits that it has offered and/or continues to offer for sale the Sandia products, including USB4912, USB4914, and USB4916 (collectively, the "Accused Products"). Microchip denies the remaining allegations of Paragraph 28 of the Complaint.

MICROCHIP'S HARMFUL ACTS

29. Microchip lacks knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 29 of the Complaint and, on that basis, denies them.

30. Microchip admits that Unwired has purchased certain chips from Microchip and that Unwired and Microchip have negotiated over the price of certain of Microchip chips. Microchip lacks knowledge or information sufficient to form a belief as to the truth of the allegations regarding the purported contract between Unwired and General Motors and, on that basis, denies them. Microchip denies the remaining allegations of Paragraph 30 of the Complaint.

31. Microchip lacks knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 31 and, on that basis, denies them.

32. Microchip lacks knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 32 of the Complaint regarding automakers' interest in the Dual Role Hub or Aptiv's purported contracts with the "Big Three" U.S. car manufacturers and, on that basis, denies them. Microchip denies the remaining allegations of Paragraph 32 of the Complaint.

33. Microchip denies the allegations of Paragraph 33 of the Complaint.

34. Microchip denies the allegations of Paragraph 34 of the Complaint.

35. Microchip denies that the Sandia products infringe the Aptiv Patents. Microchip lacks knowledge or information sufficient to form a belief as to the truth of the remaining allegations of Paragraph 35 of the Complaint and, on that basis, denies them.

36. Microchip admits that it sells its Sandia products to certain car manufacturers. Microchip denies the remaining allegations of Paragraph 36 of the Complaint.

37. Microchip denies the allegations of Paragraph 37 of the Complaint.

38. Microchip admits that, in December 2021, in connection with settlement negotiations in the 2017 Action, Aptiv Services sent Microchip portions of a draft International Trade Commission ("ITC") complaint, in which Aptiv Services alleged that Microchip infringed the Aptiv Patents. Microchip denies the remaining allegations of Paragraph 38 of the Complaint.

FIRST CAUSE OF ACTION

(INFRINGEMENT OF U.S. PATENT NO. 9,619,420)

39. Microchip repeats and incorporates by reference paragraphs 8 through 38 above as though fully set forth herein.

40. Microchip denies the allegations of Paragraph 40 of the Complaint.

41. Microchip admits that it offers to sell (through its website and its sales personnel) and sells certain of the Accused Products in the United States. Microchip further admits that it manufactures the Accused Products outside the United States. Microchip denies that it has manufactured prototypes of the Accused Products in the United States.² The remaining allegations of Paragraph 41 of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 41 of the Complaint.

42. Microchip denies the allegations of Paragraph 42 of the Complaint.

43. Microchip denies the allegations in the preamble of Paragraph 43 of the Complaint.

a. Microchip admits that Exhibits F–H to the Complaint show portions of Microchip’s website, and use the phrase “highly integrated chip.” The remaining allegations of Paragraph 43a of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 43a of the Complaint.

b. Microchip admits that Exhibits F–H to the Complaint show portions of Microchip’s website, and use the phrases “is a USB2.0 Hi-Speed Hub,” “[t]he multiple downstream USB ports support USB2.0 Low Speed/Full Speed/Hi-Speed with a single USB2.0 Hi-Speed upstream port for host connection,” and “downstream ports with dual role (host/device) physical interfaces.” Microchip admits that Exhibit J uses the phrase “automotive head unit (USB Host).” The remaining allegations of Paragraph 43b of the Complaint state legal conclusions to

² The complaint refers to “prototypes” throughout. Microchip assumes that Aptiv meant “prototypes.” To the extent Aptiv did mean “prototypes,” Microchip lacks knowledge as to the meaning of that term.

which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 43b of the Complaint.

c. Microchip admits that Exhibits F–H to the Complaint show portions of Microchip’s website, and use the phrases “Multi-Host Endpoint Reflector” and “USB data is ‘mirrored’ between two USB hosts (Multi-Host) in order to execute USB transactions.” The remaining allegations of Paragraph 43c of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 43c of the Complaint.

d. The allegations of Paragraph 43d of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 43d of the Complaint.

e. The allegations of Paragraph 43e of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 43e of the Complaint.

f. The allegations of Paragraph 43f of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 43f of the Complaint.

g. The allegations of Paragraph 43g of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 43g of the Complaint.

h. The allegations of Paragraph 43h of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 43h of the Complaint.

44. Microchip denies the allegations of Paragraph 44 of the Complaint.

45. Microchip denies the allegations of Paragraph 45 of the Complaint.

46. Microchip denies the allegations of Paragraph 46 of the Complaint.

47. Microchip admits that certain Microchip employees became aware of the '420 Patent in the 2017 Action, wherein the '420 Patent was an exhibit at trial. The allegation that the Dual Role Hub is an embodying product of the Aptiv Patents states a legal conclusion to which no response is required. To the extent that any response to such allegation is required, Microchip denies the allegation. Microchip denies the remaining allegations of Paragraph 47 of the Complaint.

48. Microchip denies the allegations of Paragraph 48 of the Complaint.

49. Microchip admits that Exhibits F–H to the Complaint show portions of Microchip's website, and use the phrase "architectures for smart phones that require host / device swapping in order to set-up an automotive session, including graphic user interface, from the mobile device to the head unit display." The remaining allegations of Paragraph 49 of the Complaint are legal conclusions that do not require a response. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 49 of the Complaint.

50. Microchip denies the allegations of Paragraph 50 of the Complaint.

51. Microchip admits that it manufactures certain of the Accused Products outside the United States, and that it sells certain of the Accused Products to certain auto manufacturers that sell vehicles in the United States. Microchip denies the remaining allegations of Paragraph 51 of the Complaint.

52. Microchip denies the allegations of Paragraph 52 of the Complaint.

53. Microchip denies the allegations of Paragraph 53 of the Complaint.

54. Microchip denies the allegations of Paragraph 54 of the Complaint.

55. Microchip denies the allegations of Paragraph 55 of the Complaint.

56. Microchip denies the allegations of Paragraph 56 of the Complaint.

57. Microchip denies the allegations of Paragraph 57 of the Complaint.

SECOND CAUSE OF ACTION

(INFRINGEMENT OF U.S. PATENT NO. 9,645,962)

58. Microchip repeats and incorporates by reference paragraphs 8 through 57 above as though fully set forth herein.

59. Microchip denies the allegations of Paragraph 59 of the Complaint.

60. Microchip denies the allegations of Paragraph 60 of the Complaint.

61. Microchip admits that it offers to sell (through its website and its sales personnel) and sells certain of the Accused Products in the United States. Microchip further admits that it manufactures the Accused Products outside the United States. Microchip denies that it has manufactured prototypes of the Accused Products in the United States. The remaining allegations of Paragraph 61 of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 61 of the Complaint.

62. Microchip denies the allegations in the preamble of Paragraph 62 of the Complaint.

a. Microchip admits that Exhibits F–H to the Complaint show portions of Microchip’s website, and use the phrase “integrated chip.” The remaining allegations of Paragraph 62a of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 62a of the Complaint.

b. Microchip admits that Exhibits F–H to the Complaint show portions of Microchip’s website and use the phrases “a USB2.0 Hi-Speed Hub,” “upstream port for host connection,” and “multiple downstream USB ports.” The remaining allegations of Paragraph 62b of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 62b of the Complaint.

c. Microchip admits that Exhibits F–H to the Complaint show portions of Microchip’s website, and use the phrases “Multi-Host Endpoint Reflector” and “USB data is ‘mirrored’ between two USB hosts (Multi-Host) in order to execute USB transactions.” The remaining allegations of Paragraph 62c of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 62c of the Complaint.

d. The allegations of Paragraph 62d of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 62d of the Complaint.

e. The allegations of Paragraph 62e of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 62e of the Complaint.

f. The allegations of Paragraph 62f of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 62f of the Complaint.

g. The allegations of Paragraph 62g of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 62g of the Complaint.

h. The allegations of Paragraph 62h of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 62h of the Complaint.

63. Microchip denies the allegations of Paragraph 63 of the Complaint.

64. Microchip denies the allegations of Paragraph 64 of the Complaint.

65. Microchip denies the allegations of Paragraph 65 of the Complaint.

66. Microchip admits that certain Microchip employees became aware of the '962 Patent in the 2017 Action wherein the '962 Patent was an exhibit at trial. The allegation that the Dual Role Hub is an embodying product of the Aptiv Patents states a legal conclusion to which no response is required. To the extent that any response to such allegation is required, Microchip denies the allegation. Microchip denies the remaining allegations of Paragraph 66 of the Complaint.

67. Microchip denies the allegations of Paragraph 67 of the Complaint.

68. Microchip admits that Exhibits F–H to the Complaint show portions of Microchip's website, and use the phrase "architectures for smart phones that require host / device swapping in order to set-up an automotive session, including graphic user interface, from the mobile device to the head unit display." The remaining allegations of Paragraph 68 of the Complaint are legal conclusions that do not require a response. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 68 of the Complaint.

69. Microchip denies the allegations of Paragraph 69 of the Complaint.

70. Microchip admits that it manufactures the Accused Products outside the United States, and that it sells certain of the Accused Products to certain auto manufacturers that sell vehicles in the United States. Microchip denies the remaining allegations of Paragraph 70 of the Complaint.

71. Microchip denies the allegations of Paragraph 71 of the Complaint.

72. Microchip denies the allegations of Paragraph 72 of the Complaint.

73. Microchip denies the allegations of Paragraph 73 of the Complaint.

74. Microchip denies the allegations of Paragraph 74 of the Complaint.

75. Microchip denies the allegations of Paragraph 75 of the Complaint.

76. Microchip denies the allegations of Paragraph 76 of the Complaint.

THIRD CAUSE OF ACTION

(INFRINGEMENT OF U.S. PATENT NO. 9,460,037)

77. Microchip repeats and incorporates by reference paragraphs 8 through 76 above as though fully set forth herein.

78. Microchip denies the allegations of Paragraph 78 of the Complaint.

79. Microchip denies the allegations of Paragraph 79 of the Complaint.

80. Microchip admits that it offers to sell (through its website and its sales personnel) and sells certain of the Accused Products in the United States. Microchip further admits that it manufactures the Accused Products outside the United States. Microchip denies that it has manufactured prototypes of the Accused Products in the United States. The remaining allegations of Paragraph 80 of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 80 of the Complaint.

81. Microchip denies the allegations in the preamble of Paragraph 81 of the Complaint.

a. Microchip admits that Exhibits F–H to the Complaint show portions of Microchip’s website, and use the phrases “USB2.0 Hi-Speed Automotive Hub,” “Recommended for Automotive Design,” “targeted to automotive consumer ports,” “Target Applications,” and “Embedded Automotive Systems.” The remaining allegations of Paragraph 81a of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 81a of the Complaint.

b. Microchip admits that Exhibit J uses the phrase “automotive head unit (USB Host)” and contains the figure reproduced in Paragraph 81b of the Complaint. The remaining allegations of Paragraph 81b of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 81b of the Complaint.

c. Microchip admits that Exhibits F–H to the Complaint show portions of the Accused Products’ webpages and state (1) that each Accused Product “is a USB2.0 Hi-Speed Hub,” (2) that “[t]he multiple downstream USB ports support USB2.0 Low Speed/Full Speed/Hi-Speed with a single USB2.0 Hi-Speed upstream port for host connection,” and (3) that one of the product features is one, two, or four (depending on the product) “downstream ports with dual role (host/device) physical interfaces.” The remaining allegations of Paragraph 81c of the Complaint state legal conclusions to which no response is required.

d. Microchip admits that Exhibits F–H to the Complaint show portions of the Accused Products’ webpages and state “The Multi-Host Endpoint Reflector employs patented technology such that USB data is ‘mirrored’ between two USB hosts (Multi-Host) in order to execute USB transactions.” The remaining allegations of Paragraph 43c of the Complaint state legal conclusions to which no response is required.

e. The allegations of Paragraph 81e of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 81e of the Complaint.

f. The allegations of Paragraph 81f of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 81f of the Complaint.

g. The allegations of Paragraph 81g of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 81g of the Complaint.

h. The allegations of Paragraph 81h of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 81h of the Complaint.

82. Microchip denies the allegations of Paragraph 82 of the Complaint.

83. Microchip denies the allegations of Paragraph 83 of the Complaint.

84. Microchip denies the allegations of Paragraph 84 of the Complaint.

85. Microchip admits that certain Microchip employees became aware of the '037 Patent in the 2017 Action wherein the '037 Patent was an exhibit at trial. The allegation that the Dual Role Hub is an embodying product of the Aptiv Patents states a legal conclusion to which no response is required. To the extent that any response to such allegation is required, Microchip denies the allegation. Microchip denies the remaining allegations of Paragraph 85 of the Complaint.

86. Microchip denies the allegations of Paragraph 86 of the Complaint.

87. Microchip admits that Exhibits F–H to the Complaint show Microchip’s website, and use the phrase “architectures for smart phones that require host / device swapping in order to set-up an automotive session, including graphic user interface, from the mobile device to the head unit display.” The remaining allegations of Paragraph 87 of the Complaint are legal conclusions that do not require a response. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 87 of the Complaint.

88. Microchip denies the allegations of Paragraph 88 of the Complaint.

89. Microchip admits that it manufactures the Accused Products outside the United States, and that it sells certain of the Accused Products to certain auto manufacturers that sell vehicles in the United States. Microchip denies the remaining allegations of Paragraph 89 of the Complaint.

90. Microchip denies the allegations of Paragraph 90 of the Complaint.

91. Microchip denies the allegations of Paragraph 91 of the Complaint.

92. Microchip denies the allegations of Paragraph 92 of the Complaint.

93. Microchip denies the allegations of Paragraph 93 of the Complaint.

94. Microchip denies the allegations of Paragraph 94 of the Complaint.

95. Microchip denies the allegations of Paragraph 95 of the Complaint.

FOURTH CAUSE OF ACTION

(INFRINGEMENT OF U.S. PATENT NO. 10,545,899)

96. Microchip repeats and incorporates by reference paragraphs 8 through 95 above as though fully set forth herein.

97. Microchip denies the allegations of Paragraph 97 of the Complaint.

98. Microchip denies the allegations of Paragraph 98 of the Complaint.

99. Microchip admits that it offers to sell (through its website and its sales personnel) and sells certain of the Accused Products in the United States. Microchip further admits that it manufactures the Accused Products outside the United States. Microchip denies that it has manufactured prototypes of the Accused Products in the United States. The remaining allegations of Paragraph 99 of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 99 of the Complaint.

100. Microchip denies the allegations in the preamble of Paragraph 100 of the Complaint.

a. Microchip admits that Exhibits F–H to the Complaint show portions of Microchip’s website, and use the phrase “such that USB data is ‘mirrored’ between two USB hosts (Multi-Host) in order to execute USB transactions. This capability is fundamental in delivering architectures for smart phones that require host / device swapping in order to set-up an automotive session, including graphic user interface, from the mobile device to the head unit display.” The remaining allegations of Paragraph 100a of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 100a of the Complaint.

b. Microchip admits that Exhibits F–H to the Complaint show portions of Microchip’s website, and use the phrases “a USB2.0 Hi-Speed Hub,” “upstream port for host connection,” and “multiple downstream USB ports.” The remaining allegations of Paragraph 100b of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 100b of the Complaint.

c. Microchip admits that Exhibits F–H to the Complaint show portions of Microchip’s website, and use the phrases “Multi-Host Endpoint Reflector” and “USB data is ‘mirrored’ between two USB hosts (Multi-Host) in order to execute USB transactions.” The remaining allegations of Paragraph 100c of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 100c of the Complaint.

d. The allegations of Paragraph 100d of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 100d of the Complaint.

e. The allegations of Paragraph 100e of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 100e of the Complaint.

f. The allegations of Paragraph 100f of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 100f of the Complaint.

g. The allegations of Paragraph 100g of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 100g of the Complaint.

101. Microchip denies the allegations of Paragraph 101 of the Complaint.

102. Microchip denies the allegations of Paragraph 102 of the Complaint.

103. Microchip denies the allegations of Paragraph 103 of the Complaint.

104. Microchip admits that certain Microchip employees became aware of the ’899 Patent in the 2017 Action wherein the ’899 Patent was an exhibit at trial. The allegation that the

Dual Role Hub is an embodying product of the Aptiv Patents states a legal conclusion to which no response is required. To the extent that any response to such allegation is required, Microchip denies the allegation. Microchip denies the remaining allegations of Paragraph 104 of the Complaint.

105. Microchip denies the allegations of Paragraph 105 of the Complaint.

106. Microchip admits that Exhibits F–H to the Complaint show portions of Microchip’s website, and use the phrase “architectures for smart phones that require host / device swapping in order to set-up an automotive session, including graphic user interface, from the mobile device to the head unit display.” The remaining allegations of Paragraph 106 of the Complaint are legal conclusions that do not require a response. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 106 of the Complaint.

107. Microchip denies the allegations of Paragraph 107 of the Complaint.

108. Microchip admits that it manufactures the Accused Products outside the United States, and that it sells certain of the Accused Products to certain auto manufacturers that sell vehicles in the United States. Microchip denies the remaining allegations of Paragraph 108 of the Complaint.

109. Microchip denies the allegations of Paragraph 109 of the Complaint.

110. Microchip denies the allegations of Paragraph 110 of the Complaint.

111. Microchip denies the allegations of Paragraph 111 of the Complaint.

112. Microchip denies the allegations of Paragraph 112 of the Complaint.

113. Microchip denies the allegations of Paragraph 113 of the Complaint.

114. Microchip denies the allegations of Paragraph 114 of the Complaint.

FIFTH CAUSE OF ACTION

(INFRINGEMENT OF U.S. PATENT NO. 11,176,072)

115. Microchip repeats and incorporates by reference paragraphs 8 through 114 above as though fully set forth herein.

116. Microchip denies the allegations of Paragraph 116 of the Complaint.

117. Microchip denies the allegations of Paragraph 117 of the Complaint.

118. Microchip admits that it offers to sell (through its website and its sales personnel) and sells certain of the Accused Products in the United States. Microchip further admits that it manufactures the Accused Products outside the United States. Microchip denies that it has manufactured prototypes of the Accused Products in the United States. The remaining allegations of Paragraph 118 of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 118 of the Complaint.

119. Microchip denies the allegations in the preamble of Paragraph 119 of the Complaint.

a. Microchip admits that Exhibits F–H to the Complaint show portions of Microchip’s website, and use the phrases “USB2.0 Hi-Speed Hub,” “upstream port for host connection,” “with dual role (host/device) physical interfaces, “Multi-Host Endpoint Reflector,” and “USB data is ‘mirrored’ between two USB hosts (Multi-Host) in order to execute USB transactions.” Microchip admits that Exhibit J uses the phrase “automotive head unit (USB Host).” The remaining allegations of Paragraph 119a of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 119a of the Complaint.

b. The allegations of Paragraph 119b of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 119b of the Complaint.

c. The allegations of Paragraph 119c of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 119c of the Complaint.

d. The allegations of Paragraph 119d of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 119d of the Complaint.

e. The allegations of Paragraph 119e of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 119e of the Complaint.

f. The allegations of Paragraph 119f of the Complaint state legal conclusions to which no response is required. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 119f of the Complaint.

120. Microchip denies the allegations of Paragraph 120 of the Complaint.

121. Microchip denies the allegations of Paragraph 121 of the Complaint.

122. Microchip denies the allegations of Paragraph 122 of the Complaint.

123. Microchip admits that certain Microchip employees became aware of the '072 Patent in the 2017 Action wherein the '072 Patent was an exhibit at trial. The allegation that the Dual Role Hub is an embodying product of the Aptiv Patents states a legal conclusion to which no response is required. To the extent that any response to such allegation is required, Microchip

denies the allegation. Microchip denies the remaining allegations of Paragraph 123 of the Complaint.

124. Microchip denies the allegations of Paragraph 124 of the Complaint.

125. Microchip admits that Exhibits F–H to the Complaint show portions of Microchip’s website, and use the phrase “architectures for smart phones that require host / device swapping in order to set-up an automotive session, including graphic user interface, from the mobile device to the head unit display.” The remaining allegations of Paragraph 125 of the Complaint are legal conclusions that do not require a response. To the extent that any response to such allegations is required, Microchip denies the allegations of Paragraph 125 of the Complaint.

126. Microchip denies the allegations of Paragraph 126 of the Complaint.

127. Microchip admits that it manufactures the Accused Products primarily outside the United States, and that it sells certain of the Accused Products to certain auto manufacturers that sell vehicles in the United States. Microchip denies the remaining allegations of Paragraph 127 of the Complaint.

128. Microchip denies the allegations of Paragraph 128 of the Complaint.

129. Microchip denies the allegations of Paragraph 129 of the Complaint.

130. Microchip denies the allegations of Paragraph 130 of the Complaint.

131. Microchip denies the allegations of Paragraph 131 of the Complaint.

132. Microchip denies the allegations of Paragraph 132 of the Complaint.

133. Microchip denies the allegations of Paragraph 133 of the Complaint.

APTIV TECHNOLOGIES’ PRAYER FOR RELIEF

The Complaint recites a prayer for relief to which no response is required. To the extent a response is required, Microchip denies that Aptiv Technologies is entitled to any relief whatsoever in this Action, either as requested in the Complaint or otherwise.

GENERAL DENIAL

Except as specifically admitted herein, Microchip denies the remaining allegations in the Complaint.

AFFIRMATIVE DEFENSES

Under Federal Rule of Civil Procedure 8(c), and without altering any applicable burdens of proof, Microchip asserts the following defenses to the Complaint and reserves the right to assert additional defenses.

FIRST AFFIRMATIVE DEFENSE – FAILURE TO STATE A CLAIM

The Complaint fails to state a claim upon which relief can be granted.

SECOND AFFIRMATIVE DEFENSE – NON-INFRINGEMENT

Microchip has not infringed and does not infringe, directly or indirectly, contributorily or by inducement, any valid and enforceable claim of the Aptiv Patents either literally or under the doctrine of equivalents. Microchip incorporates by reference Counterclaim paragraphs 18-22, 28-32, 38-42, 48-52, and 58-62.

THIRD AFFIRMATIVE DEFENSE – INVALIDITY

Claims of the Aptiv Patents are invalid for failure to satisfy the conditions of patentability set forth in 35 U.S.C. § 101, *et seq.*, including, but not limited to, §§ 101, 102, 103, and 112. Microchip incorporates by reference Counterclaim paragraphs 23-27, 33-37, 43-47, 53-57, and 63-67.

FOURTH AFFIRMATIVE DEFENSE – PROSECUTION HISTORY ESTOPPEL

Aptiv Technologies' claims are estopped, based on statements, representations, and admissions made in the specification of the patent applications, made during prosecution of the patents applications that led to the Aptiv Patents, and/or made during prosecution of related applications, from asserting that the claims of the Aptiv Patents are infringed by Microchip, or by

Microchip's products or services, either directly, indirectly, contributorily, through the doctrine of equivalents, or otherwise.

FIFTH AFFIRMATIVE DEFENSE – EQUITABLE DEFENSES

Aptiv Technologies' claims are barred as unenforceable, in whole or in part, under the doctrines of estoppel, acquiescence, waiver, implied license, and/or other equitable defenses. For example, Aptiv Technologies brought this action in retaliation for Microchip asserting its patents against Aptiv Services in the 2017 Action. Further, in connection with settlement negotiations in the 2017 Action in December 2021, Aptiv Services sent Microchip portions of a draft ITC complaint, in which it alleged that Microchip infringes the Aptiv Patents. Aptiv Services claimed that, if the parties were unable to achieve a settlement, it intended to initiate an action with the ITC based on Microchip's alleged infringement of Aptiv Technologies' patents. But the Aptiv entities never filed that ITC action, and Aptiv Technologies delayed almost a year and half before it filed this suit.

SIXTH AFFIRMATIVE DEFENSE – NO WILLFULNESS

Microchip has not engaged in any conduct that constitutes willful infringement or that would otherwise entitle Aptiv Technologies to an award of enhanced damages under 35 U.S.C. § 284. Microchip does not, did not, and could not believe that it infringes any valid and enforceable claim of the Aptiv Patents either literally or under the doctrine of equivalents.

SEVENTH AFFIRMATIVE DEFENSE – LIMITATION ON DAMAGES

Aptiv Technologies is barred or limited in recovery, in whole or in part, by failing to meet the requirements of 35 U.S.C. §§ 287 and/or 288. For example, Aptiv Technologies is barred or limited in recovery, in whole or in part, by failing to meet the requirements of 35 U.S.C. § 287(a) due to Aptiv Services' failure to mark products embodying the Aptiv Patents.

EIGHTH AFFIRMATIVE DEFENSE – NO ATTORNEYS’ FEES

Microchip has not engaged in any conduct that would make this an exceptional case or would entitle Aptiv Technologies to an award of attorneys’ fees under 35 U.S.C. § 285.

NINTH AFFIRMATIVE DEFENSE – STATUTE OF LIMITATIONS

Aptiv Technologies is precluded from recovering any damages for any alleged infringement that occurred more than six years prior to the commencement of this Action under 35 U.S.C. § 286.

TENTH AFFIRMATIVE DEFENSE - NO INJUNCTIVE RELIEF

No injunctive relief should be awarded because Aptiv Technologies cannot establish entitlement to such relief, and no factor supporting issuance of such relief is present in this case.

ELEVENTH AFFIRMATIVE DEFENSE – GOVERNMENT SALES EXCEPTION

Aptiv Technologies’ claims are barred, in whole or in part, to the extent that Aptiv Technologies accuses Microchip’s products or services that are provided by or for the United States of America pursuant to 28 U.S.C. § 1498(a).

TWELFTH AFFIRMATIVE DEFENSE – REVERSE DOCTRINE OF EQUIVALENTS

Microchip’s accused methods, systems, products, and/or features operate and/or are configured in ways substantially different in principle from the purported invention(s) described in the Aptiv Patents, and Aptiv Technologies cannot sustain its burden of proving otherwise.

ADDITIONAL DEFENSES

Microchip’s investigation of its defenses is ongoing, and Microchip expressly reserves the right to allege and assert any additional defenses under Rule 8 of the Federal Rules of Civil Procedure, the patent laws of the United States, and any other defense, at law or inequity, that may now exist or may in the future be available based upon discovery and further investigation in this case.

JURY DEMAND

Microchip joins Aptiv Technologies' request for a jury trial on all issues triable by jury.

MICROCHIP'S COUNTERCLAIMS

Under Federal Rule of Civil Procedure 13, Microchip Technology Inc. ("Microchip") submits the following counterclaims against Aptiv Technologies Limited ("Aptiv Technologies") and Aptiv Services US, LLC ("Aptiv Services"), and in support thereof, alleges the following:

NATURE OF THE ACTION

1. Microchip brings the counterclaims that follow for judgment of (1) non-infringement and invalidity of U.S. Patent Nos. 9,619,420 ("420 Patent"); 9,645,962 ("962 Patent"); 9,460,037 ("037 Patent"); 10,545,899 ("899 Patent"); and 11,176,072 ("072 Patent") (collectively, the "Aptiv Patents"), and (2) infringement of U.S. Patent No. 9,471,074 (the "074 Patent") (Ex. 1) under the Patent Laws of the United States of America, 35 U.S.C. § 100, *et seq.*

THE PARTIES

2. Microchip Technology Inc. is a Delaware corporation with a place of business located at 2355 West Chandler Blvd., Chandler, Arizona 85224-6199. Microchip Technology Inc. is the owner of the '074 Patent.

3. Aptiv Technologies claims to be a Barbados international business company with a principal place of business at The Financial Services Centre, Bishop's Court Hill, St. Michael, Barbados. Aptiv Technologies claims to be the sole owner of the Aptiv Patents.

4. Upon information and belief, Aptiv Services is a Delaware limited liability company with its principal place of business at 5725 Delphi Dr., Troy, Michigan 48098. Upon information and belief, Aptiv Services wholly or partially directs or controls the making, using,

selling, offering to sell, and/or importing of the Dual Role Hub, which Aptiv Technologies claims is an embodiment of the Aptiv Patents that Aptiv Technologies owns.

JURISDICTION AND VENUE

5. This Court has exclusive subject matter jurisdiction over this Action pursuant to federal question jurisdiction, 28 U.S.C. §§ 1331 and 1338(a), the Declaratory Judgment Act, 28 U.S.C. §§ 2201-02, and the Patent Laws of the United States, 35 U.S.C. § 1, *et seq.* Furthermore, an actual, substantial, and continuing justiciable controversy exists between Microchip and Aptiv Technologies based on Aptiv Technologies having filed a Complaint against Microchip alleging infringement of the Aptiv Patents, with respect to which Microchip requires a declaration of its rights by this Court. The controversy concerns the invalidity and non-infringement of the Aptiv Patents, and the right of Aptiv Technologies to maintain suit for alleged infringement of the Aptiv Patents.

6. The Court has personal jurisdiction over Aptiv Technologies, *inter alia*, because Aptiv Technologies has submitted to the personal jurisdiction of this Court by availing itself of this Court by filing the Complaint. The Court has personal jurisdiction over Aptiv Services because it is a Delaware limited liability company; has continuous and systematic contacts with the State of Delaware including continuous contacts with, and sales to, customers in Delaware; and has committed acts within Delaware giving rise to this action, directly and through subsidiaries or intermediaries, including distributing, offering for sale, selling, using, importing and/or advertising products and services that infringe the claims of the '074 Patent in Delaware. Further, Aptiv Services submitted to the personal jurisdiction of this Court in Microchip's prior litigation against Aptiv Services (*Microchip Technology Inc. v. Aptiv Services US, LLC*, Case No. 17-cv-01194-JDW (D. Del.) (the "2017 Action")).

7. Venue is proper in this District as to these counterclaims pursuant to 28 U.S.C. §§ 1391(b)-(c) and 1400(b) because, *inter alia*, Aptiv Technologies has submitted to the venue of this Court by filing its Complaint here. Aptiv Services resides in this district by virtue of being formed and organized in Delaware.

FACTUAL BACKGROUND

8. Microchip is a leading provider of smart, connected, and secure embedded control solutions. Founded in 1987, it has never ceased innovating. With over 30 years of technology leadership, Microchip's broad product portfolio provides a large portion of the silicon requirements in customers' applications. In key end markets, such as automotive, aerospace and defense, communications, consumer appliances, data centers and computing, Microchip's synergistic product portfolio empowers disruptive growth trends, including 5G, data centers, artificial intelligence and machine learning, Internet of Things and edge computing, advanced driver assist systems and autonomous driving, and electric vehicles.

9. Among many products for the automotive industry, Microchip provides USB media hubs for automotive infotainment systems. An automotive infotainment system provides compatibility with personal consumer electronics devices that may be used in vehicles. It also provides drivers with relevant information for safe operation and navigation. Microchip empowers the design and development of infotainment systems that provide intuitive visual, auditory, and tactile interfaces to the vehicle's distributed and networked subsystems.

10. A media hub provides an interface from the vehicle's infotainment system to personal electronic devices such as smartphones and tablets. In addition to providing a data link, the media hub also supplies power to charge the batteries used in these devices. Within Microchip's media hub, its USB Hub Controllers provide port expansion solutions for mixed-speed USB applications. They feature ultra-low power consumption and a small footprint.

11. Microchip's leadership position in USB media hubs comes from its early involvement with car makers to develop solutions and product roadmaps. Microchip's extensive knowledge of both the consumer and automotive markets allows it to understand trends that enable it to develop products with differentiated features.

12. Microchip supports its USB products with innovative power management solutions. Power management is vital in USB devices that require efficient power consumption and precision. One such power management tool is a linear low-dropout voltage regulator. In simple terms, voltage regulators provide a stable output voltage independent of load, input-voltage variations, temperature, and time. "Low-dropout" voltage regulators can maintain such regulation even where the difference between supply voltage and load voltage is small.

13. Low dropout voltage regulators often rely on feedback loops including a large external "compensating" capacitor to stabilize the operation of the circuit. However, the operation of such circuits is further dependent on the equivalent series resistance ("ESR") attributable to the compensating capacitor, which can vary significantly depending on the characteristics of the capacitor, manufacturing variances, and the topology of the circuit connecting the capacitor.

14. To address this issue, Microchip invented a low-dropout voltage regulator design that permits the use of significantly smaller compensating capacitors and allows for a wider range of ESR, increasing circuit board layout efficiency and allowing greater flexibility in the range of suitable compensating capacitors. Microchip disclosed and claimed this invention in the '074 Patent, titled "USB Regulator with Current Buffer to Reduce Compensation Capacitor Size and Provide for Wide Range of ESR Values of External Capacitor."

15. As further detailed below, Aptiv Services' Dual Role Hub product infringes at least claim 1 of the '074 Patent.

16. Aptiv Technologies filed its Complaint in this action in the District of Delaware on March 20, 2023, accusing Microchip of direct, indirect, and willful infringement of the Aptiv Patents by Microchip’s Sandia products—including USB4912, USB4914, and USB4916 (collectively, the “Microchip Accused Products”). Aptiv Technologies has asserted five patents in this action. All of the Aptiv Patents claim priority to the provisional application No. 61/882,915, filed on September 26, 2013 by Unwired Technology LLC (“Unwired”) before it was acquired by an Aptiv entity. Aptiv Technologies claims that the Dual Role Hub product is an embodiment of those patents.

17. As further detailed below, Microchip does not infringe any claim of any of the Aptiv Patents, and the Aptiv Patents are invalid.

FIRST COUNTERCLAIM
(DECLARATORY JUDGMENT OF NON-INFRINGEMENT)
U.S. Patent No. 9,619,420

18. Microchip repeats and incorporates by reference paragraphs 1 through 17 above as though fully set forth herein.

19. As a result of at least the allegations contained in the Complaint, an actual and justiciable controversy exists between Microchip and Aptiv Technologies concerning the infringement of the ’420 Patent. In particular, Aptiv Technologies alleges that Microchip infringes the ’420 Patent.

20. Microchip has not directly infringed, contributed to, or induced infringement of any valid or enforceable claim of the ’420 Patent and has not otherwise committed any acts in violation of 35 U.S.C. § 271.

21. For example, the Microchip Accused Products do not contain “a USB routing switch interconnected to the USB bridge, the USB hub, and the second USB port, wherein the

USB routing switch is configured to connect the second USB port to the first USB port through the USB bridge, thereby providing bidirectional initiation of communication between the USB host and the consumer device when the consumer device connected to the second USB port is in a USB host mode and wherein the USB routing switch is configured to connect the second USB port directly to the first USB port through the USB hub, thereby only responding to communication initiated by the USB Host when the consumer device connected to the second USB port is in a USB device mode.”

22. Microchip therefore seeks a declaration that it has not infringed, and does not infringe, literally or under the doctrine of equivalents, directly or indirectly, any valid and enforceable claim of the '420 Patent.

SECOND COUNTERCLAIM
(DECLARATORY JUDGMENT OF INVALIDITY)
U.S. Patent No. 9,619,420

23. Microchip repeats and incorporates by reference paragraphs 1 through 22 above as though fully set forth herein.

24. As a result of at least the allegations contained in the Complaint, an actual and justiciable controversy exists between Microchip and Aptiv Technologies concerning the validity of the '420 Patent. In particular, Aptiv Technologies alleges that Microchip infringes at least one valid claim of the '420 Patent.

25. One or more of the claims of the '420 Patent are invalid for failing to meet the conditions for patentability as set forth in 35 U.S.C. § 1, *et seq.*, including, but not limited to §§ 101, 102, 103, and 112.

26. For example, Bohm (U.S. Patent No. 7,478,191), Chang (U.S. Patent Application Publication No. US2006/0206650), Chang (U.S. Patent Application Publication

US2009/0268743), and/or Yamada (Japanese Patent Application Publication No. JP2010093437), alone or in combination with each other, invalidate one or more claims of the '420 Patent, at least under Aptiv Technologies' apparent construction of the asserted claims.

27. Microchip therefore seeks a declaration that one or more of the claims of the '420 Patent are invalid for failing to meet the conditions for patentability as set forth in 35 U.S.C. § 1, *et seq.*

THIRD COUNTERCLAIM
(DECLARATORY JUDGMENT OF NON-INFRINGEMENT)
U.S. Patent No. 9,645,962

28. Microchip repeats and incorporates by reference paragraphs 1 through 27 above as though fully set forth herein.

29. As a result of at least the allegations contained in the Complaint, an actual and justiciable controversy exists between Microchip and Aptiv Technologies concerning the infringement of the '962 Patent. In particular, Aptiv Technologies alleges that Microchip infringes the '962 Patent.

30. Microchip has not directly infringed, contributed to, or induced infringement of any valid or enforceable claim of the '962 Patent and has not otherwise committed any acts in violation of 35 U.S.C. § 271.

31. For example, the Microchip Accused Products do not contain "a USB routing switch interconnected to the USB bridge, the USB hub, and the plurality of downstream USB ports, wherein the USB routing switch is configured to connect a first downstream USB port of the plurality of downstream USB ports to the upstream USB port through the USB bridge when a consumer device connected to the first downstream USB port is the USB host and is configured to initiate bidirectional communication with the upstream USB port, and wherein the USB routing

switch is configured to connect the first downstream USB port directly to the USB hub when the consumer device connected to the first downstream USB port is configured to only respond to communication from the upstream USB port, thereby rendering the consumer device compatible with a device connected to the upstream USB port.”

32. Microchip therefore seeks a declaration that it has not infringed, and does not infringe, literally or under the doctrine of equivalents, directly or indirectly, any valid and enforceable claim of the '962 Patent.

FOURTH COUNTERCLAIM
(DECLARATORY JUDGMENT OF INVALIDITY)
U.S. Patent No. 9,645,962

33. Microchip repeats and incorporates by reference paragraphs 1 through 32 above as though fully set forth herein.

34. As a result of at least the allegations contained in the Complaint, an actual and justiciable controversy exists between Microchip and Aptiv Technologies concerning the validity of the '962 Patent. In particular, Aptiv Technologies alleges that Microchip infringes at least one valid claim of the '962 Patent.

35. One or more of the claims of the '962 Patent are invalid for failing to meet the conditions for patentability as set forth in 35 U.S.C. § 1, *et seq.*, including, but not limited to §§ 101, 102, 103, and 112.

36. For example, Bohm (U.S. Patent No. 7,478,191), Chang (U.S. Patent Application Publication No. US2006/0206650), Chang (U.S. Patent Application Publication US2009/0268743), and/or Yamada (Japanese Patent Application Publication No. JP2010093437), alone or in combination with each other, invalidate one or more claims of the '962 Patent, at least under Aptiv Technologies' apparent construction of the asserted claims.

37. Microchip therefore seeks a declaration that one or more of the claims of the '962 Patent are invalid for failing to meet the conditions for patentability as set forth in 35 U.S.C. § 1, *et seq.*

FIFTH COUNTERCLAIM
(DECLARATORY JUDGMENT OF NON-INFRINGEMENT)
U.S. Patent No. 9,460,037

38. Microchip repeats and incorporates by reference paragraphs 1 through 37 above as though fully set forth herein.

39. As a result of at least the allegations contained in the Complaint, an actual and justiciable controversy exists between Microchip and Aptiv Technologies concerning the infringement of the '037 Patent. In particular, Aptiv Technologies alleges that Microchip infringes the '037 Patent.

40. Microchip has not directly infringed, contributed to, or induced infringement of any valid or enforceable claim of the '037 Patent and has not otherwise committed any acts in violation of 35 U.S.C. § 271.

41. For example, the Microchip Accused Products do not contain “a USB Bridge interconnected to the USB Hub and configured to connect the embedded USB Host system to a second USB Host; and a USB routing switch interconnected to the USB Bridge, the USB Hub, and the plurality of USB Ports, wherein the USB routing switch is configured to connect a first USB Port of the plurality of USB Ports to the USB Hub through the USB Bridge when a consumer device connected to the USB Port is the second USB Host and is configured to initiate bidirectional communication with the embedded USB Host, and wherein the USB routing switch is configured to connect the first USB Port directly to the USB Hub when the consumer device connected to the

first USB Port is configured to only respond to communication from the embedded USB Host, thereby rendering the consumer device compatible with the embedded USB Host system.”

42. Microchip therefore seeks a declaration that it has not infringed, and does not infringe, literally or under the doctrine of equivalents, directly or indirectly, any valid and enforceable claim of the '037 Patent.

SIXTH COUNTERCLAIM
(DECLARATORY JUDGMENT OF INVALIDITY)
U.S. Patent No. 9,460,037

43. Microchip repeats and incorporates by reference paragraphs 1 through 42 above as though fully set forth herein.

44. As a result of at least the allegations contained in the Complaint, an actual and justiciable controversy exists between Microchip and Aptiv Technologies concerning the validity of the '037 Patent. In particular, Aptiv Technologies alleges that Microchip infringes at least one valid claim of the '037 Patent.

45. One or more of the claims of the '037 Patent are invalid for failing to meet the conditions for patentability as set forth in 35 U.S.C. § 1, *et seq.*, including, but not limited to §§ 101, 102, 103, and 112.

46. For example, Bohm (U.S. Patent No. 7,478,191), Chang (U.S. Patent Application Publication No. US2006/0206650), Chang (U.S. Patent Application Publication US2009/0268743), and/or Yamada (Japanese Patent Application Publication No. JP2010093437), alone or in combination with each other, invalidate one or more claims of the '037 Patent, at least under Aptiv Technologies' apparent construction of the asserted claims.

47. Microchip therefore seeks a declaration that one or more of the claims of the '037 Patent are invalid for failing to meet the conditions for patentability as set forth in 35 U.S.C. § 1, *et seq.*

SEVENTH COUNTERCLAIM
(DECLARATORY JUDGMENT OF NON-INFRINGEMENT)
U.S. Patent No. 10,545,899

48. Microchip repeats and incorporates by reference paragraphs 1 through 47 above as though fully set forth herein.

49. As a result of at least the allegations contained in the Complaint, an actual and justiciable controversy exists between Microchip and Aptiv Technologies concerning the infringement of the '899 Patent. In particular, Aptiv Technologies alleges that Microchip infringes the '899 Patent.

50. Microchip has not directly infringed, contributed to, or induced infringement of any valid or enforceable claim of the '899 Patent and has not otherwise committed any acts in violation of 35 U.S.C. § 271.

51. For example, the Microchip Accused Products do not contain “a USB bridge interconnected to the USB hub and configured to connect the USB host to a second USB host” or “a USB routing switch interconnected to the USB bridge, the USB hub, and the plurality of USB ports.”

52. Microchip therefore seeks a declaration that it has not infringed, and does not infringe, literally or under the doctrine of equivalents, directly or indirectly, any valid and enforceable claim of the '899 Patent.

EIGHTH COUNTERCLAIM
(DECLARATORY JUDGMENT OF INVALIDITY)
U.S. Patent No. 10,545,899

53. Microchip repeats and incorporates by reference paragraphs 1 through 52 above as though fully set forth herein.

54. As a result of at least the allegations contained in the Complaint, an actual and justiciable controversy exists between Microchip and Aptiv Technologies concerning the validity of the '899 Patent. In particular, Aptiv Technologies alleges that Microchip infringes at least one valid claim of the '899 Patent.

55. One or more of the claims of the '899 Patent are invalid for failing to meet the conditions for patentability as set forth in 35 U.S.C. § 1, *et seq.*, including, but not limited to §§ 101, 102, 103, and 112.

56. For example, Bohm (U.S. Patent No. 7,478,191), Chang (U.S. Patent Application Publication No. US2006/0206650), Chang (U.S. Patent Application Publication US2009/0268743), and/or Yamada (Japanese Patent Application Publication No. JP2010093437), alone or in combination with each other, invalidate one or more claims of the '899 Patent, at least under Aptiv Technologies' apparent construction of the asserted claims.

57. Microchip therefore seeks a declaration that one or more of the claims of the '899 Patent are invalid for failing to meet the conditions for patentability as set forth in 35 U.S.C. § 1, *et seq.*

NINTH COUNTERCLAIM
(DECLARATORY JUDGMENT OF NON-INFRINGEMENT)
U.S. Patent No. 11,176,072

58. Microchip repeats and incorporates by reference paragraphs 1 through 57 above as though fully set forth herein.

59. As a result of at least the allegations contained in the Complaint, an actual and justiciable controversy exists between Microchip and Aptiv Technologies concerning the infringement of the '072 Patent. In particular, Aptiv Technologies alleges that Microchip infringes the '072 Patent.

60. Microchip has not directly infringed, contributed to or induced infringement of any valid or enforceable claim of the '072 Patent and has not otherwise committed any acts in violation of 35 U.S.C. § 271.

61. For example, the Microchip Accused Products do not “rout[e] the first USB signal via the USB multiplexing switches from the USB device to the embedded USB host through the USB bridge and the USB hub.”

62. Microchip therefore seeks a declaration that it has not infringed, and does not infringe, literally or under the doctrine of equivalents, directly or indirectly, any valid and enforceable claim of the '072 Patent.

TENTH COUNTERCLAIM
(DECLARATORY JUDGMENT OF INVALIDITY)
U.S. Patent No. 11,176,072

63. Microchip repeats and incorporates by reference paragraphs 1 through 62 above as though fully set forth herein.

64. As a result of at least the allegations contained in the Complaint, an actual and justiciable controversy exists between Microchip and Aptiv Technologies concerning the validity of the '072 Patent. In particular, Aptiv Technologies alleges that Microchip infringes at least one valid claim of the '072 Patent.

65. One or more of the claims of the '072 Patent are invalid for failing to meet the conditions for patentability as set forth in 35 U.S.C. § 1, *et seq.*, including, but not limited to §§ 101, 102, 103, and 112.

66. For example, Bohm (U.S. Patent No. 7,478,191), Chang (U.S. Patent Application Publication No. US2006/0206650), Chang (U.S. Patent Application Publication US2009/0268743), and/or Yamada (Japanese Patent Application Publication No. JP2010093437), alone or in combination with each other, invalidate one or more claims of the '072 Patent, at least under Aptiv Technologies' apparent construction of the asserted claims.

67. Microchip therefore seeks a declaration that one or more of the claims of the '072 Patent are invalid for failing to meet the conditions for patentability as set forth in 35 U.S.C. § 1, *et seq.*

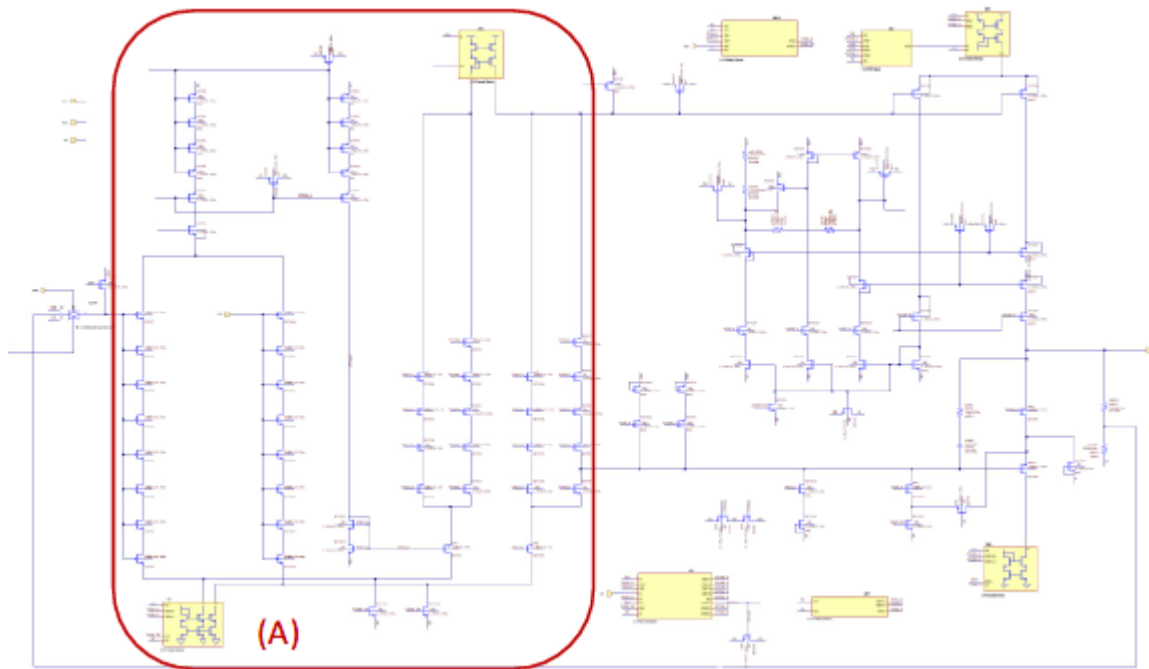
ELEVENTH COUNTERCLAIM
(INFRINGEMENT BY APTIV SERVICES)
U.S. Patent No. 9,471,074

68. Microchip repeats and incorporates by reference paragraphs 1 through 67 above as though fully set forth herein.

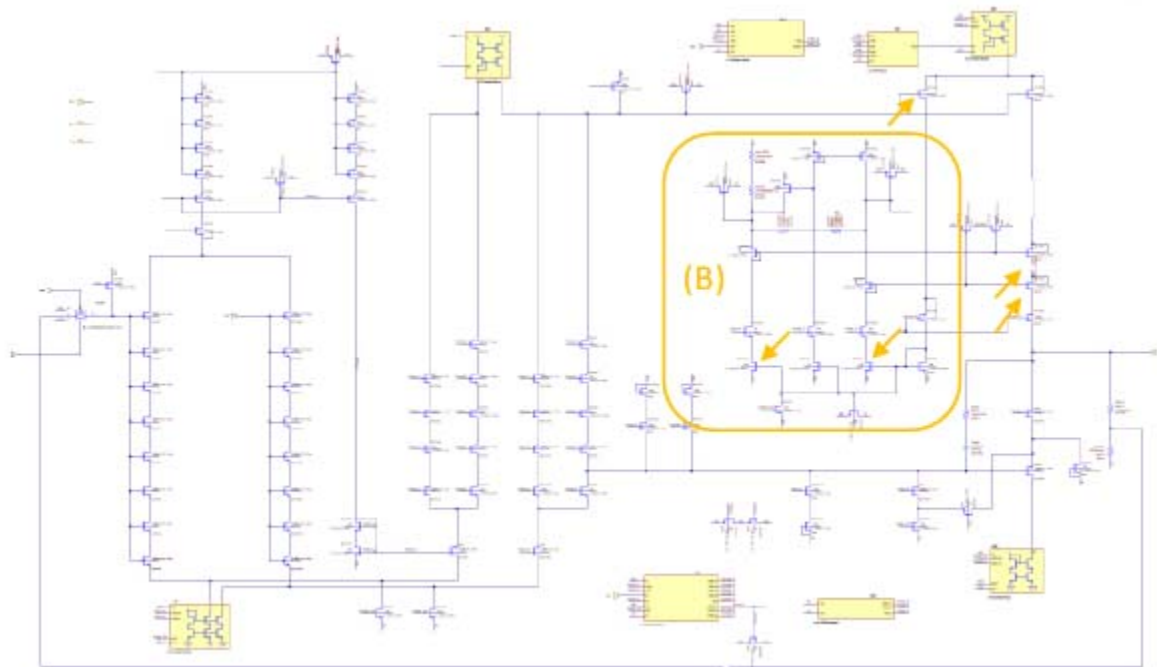
69. Aptiv Services has directly infringed and continues to directly infringe the '074 Patent at least by making, using, testing, offering to sell, selling, and/or importing into the United States products containing the Boston-2 chips, earlier versions of the same, and prototypes of the same, such as Aptiv's Dual Role Hub (collectively, the "Aptiv Accused Products"), or by directing or controlling others to make, use, test, offer to sell, sell, and/or import into the United States those products.

70. The Aptiv Accused Products infringe at least claim 1 of the '074 Patent. For example, the Boston-2 chip has a USB driver circuit that contains a voltage regulator.

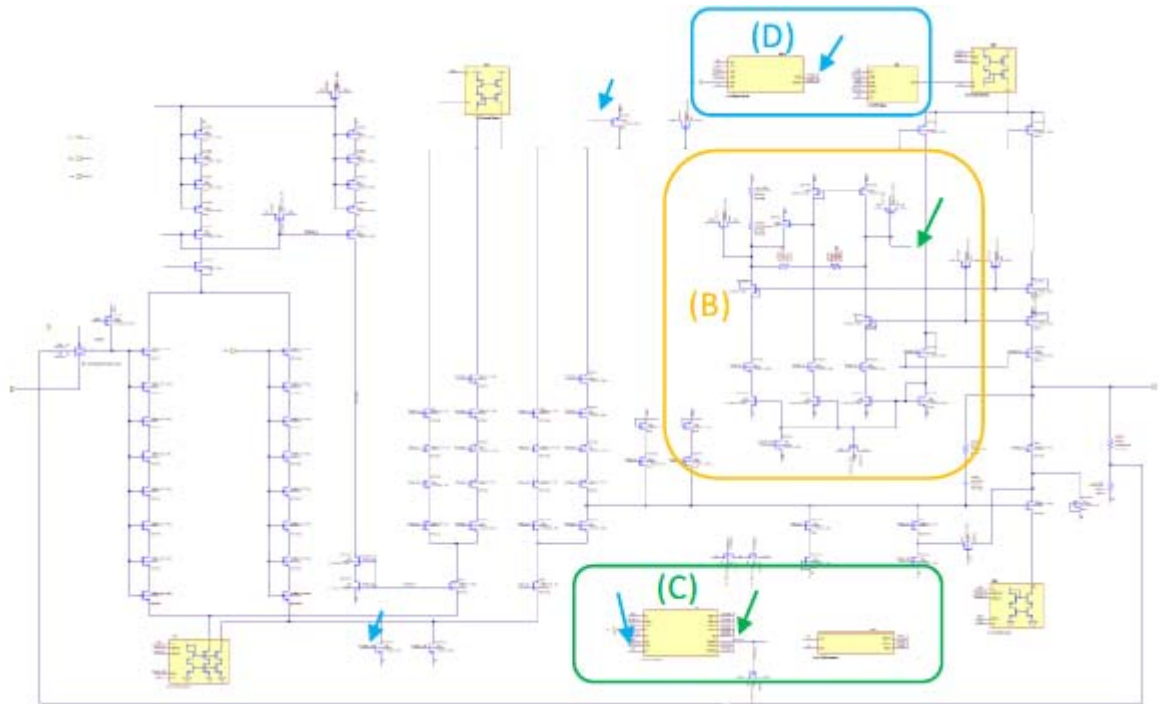
71. The voltage regulator has an operational amplifier (A below):



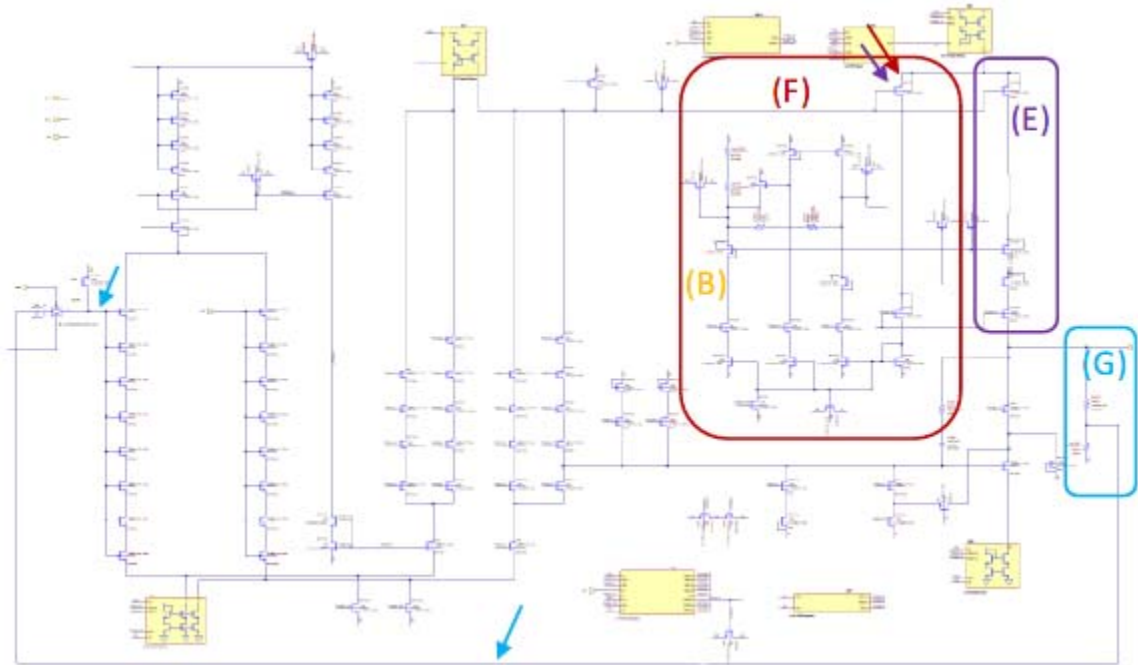
72. The voltage regulator has a gm enhanced current buffer driver (B below):



73. The voltage regulator has a biasing circuit (C below) coupled to the current buffer driver (B below) to set a biasing ratio for gm-boost of the current buffer driver. An enable/disable function (D below) can enable/disable the biasing circuit for reducing standby current.



74. The voltage regulator has an output power driver (E below). The current buffer driver (B below) is coupled between the operational amplifier (A above; pictured left below, but unlabeled for simplicity) and the output power driver (E below). A current feedback circuit (F below) is coupled between the output power driver (E below) and the current buffer driver (B below). A feedback loop (G below) is coupled between the output power driver (E below) and the operational amplifier (A above; pictured left below, but unlabeled for simplicity).



75. Aptiv Services knows of the '074 Patent at least through Microchip's filing of this counterclaim.

76. Aptiv Services also indirectly infringes the '074 Patent. Aptiv Services has induced and continues to induce and/or contribute to the infringement of the '074 Patent by its customers, auto manufacturers, distributors, dealers, and/or infotainment system end users, knowing at least as of Microchip's filing of this counterclaim that its actions would induce and/or contribute to such infringement.

77. Aptiv Services actively encourages its customers, auto manufacturers, and/or end users to infringe claims of the '074 Patent by providing the Aptiv Accused Products, and advertising and advising its customers and auto manufacturers how to incorporate the Aptiv Accused Products into an infotainment system and/or automobile in a manner that infringes the '074 Patent.

78. On information and belief, the Aptiv Accused Products do not have substantial non-infringing uses because it is specifically designed to infringe.

79. On information and belief, Aptiv Services will continue to infringe, induce infringement of, and/or contribute to infringement of the '074 Patent unless enjoined by this Court.

80. As a result of Aptiv Services' infringement of the '074 Patent, Microchip has suffered and will continue to suffer damages in an amount to be proven at trial.

81. Microchip is entitled to recover damages for pre-suit infringement because it has complied with 35 U.S.C. § 287.

82. As a result of Aptiv Services' infringement of the '074 Patent, Microchip has suffered and will continue to suffer irreparable harm unless Aptiv Services is enjoined against such acts by this Court.

83. As a result of Aptiv Services' infringement of the '074 Patent, Microchip is entitled to an award of its reasonable attorneys' fees, as provided by 35 U.S.C. § 285.

JURY DEMAND

Microchip demands a trial by jury on all issues raised in its counterclaims that are so triable.

PRAYER FOR RELIEF

WHEREFORE, for its Answer and Counterclaims, Microchip requests the following judgments and relief against Aptiv Technologies and Aptiv Services:

- a) That all claims against Microchip be dismissed with prejudice and that all relief requested by Aptiv Technologies be denied;
- b) A judgment declaring that Microchip has not infringed and does not infringe, either directly or indirectly, any valid claim of the Aptiv Patents, either literally or under the doctrine of equivalents;
- c) A judgment declaring that the claims of the Aptiv Patents are invalid for failure to comply with the statutory provisions of Title 35 of the United States Code, including without limitation, one or more of §§ 101, 102, 103, and/or 112;

- d) A judgment that Aptiv Services has directly infringed, induced infringement of, and/or contributed to infringement of one or more claims of the '074 Patent in connection with the Aptiv Accused Products;
- e) A judgment and award of all damages sustained by Microchip as a result of Aptiv Services' infringement, including supplemental damages for any continuing post-verdict infringement up until entry of the final judgment with an accounting as needed;
- f) A permanent injunction enjoining Aptiv Services and anyone in concert with Aptiv Services from infringing, inducing infringement of, or contributing to the infringement of the '074 Patent;
- g) An award of Microchip's costs as the prevailing party;
- h) An award of enhanced damages pursuant to 35 U.S.C. § 284;
- i) A judgment that this case is exceptional under 35 U.S.C. § 285 and, accordingly, that Microchip is entitled to recover reasonable attorneys' fees and costs upon prevailing in this action;
- j) A judgment and an award of all interest and costs incurred; and
- k) Any award or any such other relief that the Court deems just and proper.

MORRIS, NICHOLS, ARSHT & TUNNELL LLP

/s/ Brian P. Egan

OF COUNSEL:

John M. Neukom
Barbara N. Barath
Yuqing Cui
DEBEVOISE & PLIMPTON LLP
650 California Street
San Francisco, CA 94108
(415) 738-5700

Andrew Gish
Edward Tulin
GISH PLLC
41 Madison Avenue, Floor 31
New York, NY 10010
(212) 518-2000

May 11, 2023

Jack B. Blumenfeld (#1014)
Brian P. Egan (#6227)
1201 North Market Street
P.O. Box 1347
Wilmington, DE 19899-1347
(302) 658-9200
jblumenfeld@morrisnichols.com
began@morrisnichols.com

Attorneys for Defendant

CERTIFICATE OF SERVICE

I hereby certify that on May 11, 2023, I caused the foregoing to be electronically filed with the Clerk of the Court using CM/ECF, which will send notification of such filing to all registered participants.

I further certify that I caused copies of the foregoing document to be served on May 11, 2023, upon the following in the manner indicated:

Philip A. Rovner, Esquire
Jonathan A. Choa, Esquire
POTTER ANDERSON & CORROON, LLP
1313 North Market Street
Hercules Plaza, 6th Floor
Wilmington, DE 19801
Attorneys for Plaintiff

VIA ELECTRONIC MAIL

Daralyn J. Durie, Esquire
Timothy Saulsbury, Esquire
Eric C. Wiener, Esquire
Joyce C. Li, Esquire
MORRISON & FOERSTER LLP
425 Market Street
San Francisco, CA 94105
Attorneys for Plaintiff

VIA ELECTRONIC MAIL

W. Henry Huttinger, Esquire
Andrew T. Jones, Esquire
MORRISON & FOERSTER LLP
707 Wilshire Boulevard
Los Angeles, CA 90017
Attorneys for Plaintiff

VIA ELECTRONIC MAIL

/s/ Brian P. Egan

Brian P. Egan (#6227)